

## **Exhibit 2**

### **Guide to Addressing Pre-ROD and Post-ROD Changes**



# Guide to Addressing Pre-ROD and Post-ROD Changes

Office of Emergency and Remedial Response  
Hazardous Site Control Division OS-220W

Quick Reference Fact Sheet

Section 117(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) contains provisions for addressing and documenting changes to an alternative that occur between the time the alternative is proposed as the preferred cleanup approach for a site and the final selection of a remedy in a Record of Decision (ROD). In addition, sections 117(c) and (d) of CERCLA contain provisions for addressing changes to the remedy that occur after the ROD is signed. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (55 FR 8666-8865, March 8, 1990) includes requirements for public information and community relations (§300.155), and the preparation and documentation requirements for remedial investigation/feasibility studies (RI/FSs) and remedy-selection documents (§300.430(c) and (f)(3)). It also addresses post-ROD information and public comment in sections 300.435(c)(2) and 300.825(b) and (c). This guide outlines the methods for categorizing pre- and post-ROD changes and the ways in which changes should be documented. More detailed guidance for pre-ROD changes and both significant and fundamental post-ROD changes (i.e., Explanations of Significant Differences (ESDs) and ROD amendments) can be found in Chapters 5 and 8, respectively, of the *Interim Final Guidance on Preparing Superfund Decision Documents* (OSWER Directive 9355.3-02).

## I. PRE-ROD CHANGES

When a selected remedial action reflects a significant change(s) from the preferred alternative presented in the Proposed Plan for the remedial action, Section 117(b) of CERCLA requires that these changes be documented. A site-specific determination of what constitutes a significant (as opposed to minor) change, and, therefore, the extent of documentation required, is made after taking the following factors into consideration: (1) the information previously made available to the public; (2) the original description of the alternatives presented in the Proposed Plan (and outlined in detail in the RI/FS Report); and (3) the impact that the changes may have on the alternative's scope, performance, or cost. (See NCP preamble, 55 FR 8772.)

Minor changes are those that have little or no impact on the overall scope, performance, or cost of the alternative originally presented in the Proposed Plan as the preferred remedy for the site or operable unit. (See **Highlight 1** for examples of minor changes).

In contrast to minor changes, significant changes have a significant or fundamental effect on

### HIGHLIGHT 1 EXAMPLES OF MINOR CHANGES

- Based on information received during the public comment period, the lead agency determines that the capital cost estimate in the Proposed Plan was 10 percent too low. Instead of a cost of \$4.7 million the actual capital cost of the remedy is \$5.1 million.
- It was determined that a remedy will require eight ground-water extraction wells, rather than six wells as estimated originally in the Proposed Plan, to achieve cleanup objectives within the desired time period.
- The volume of material to be excavated and treated is actually 120,000 cubic yards, rather than the 110,000 cubic yards estimated originally in the Proposed Plan.

the scope, performance, and/or cost of the preferred alternative. They generally involve either (1) selecting as the remedy an RI/FS alternative other than the preferred alternative identified in the Proposed Plan; or (2) substantially modifying

a component of the previously identified preferred alternative (e.g., addressing a substantially greater or lesser volume of waste; addressing a new exposure pathway; or by encompassing a substantially greater physical area of the site). Changes in treatment technologies or processes that substantially alter the long-term effectiveness or the short-term effectiveness of the alternative constitute significant changes of the performance of the preferred alternative. If the capital or operation and maintenance costs for the final alternative are considerably different from the original estimates, this is considered a significant change in the cost of the preferred alternative.

## DOCUMENTING PRE-ROD CHANGES

**Minor changes** to the Proposed Plan should be discussed in the Description of Alternatives section of the ROD Decision Summary and should be documented in the Administrative Record File.

The type of documentation required for **significant changes** depends on whether or not the change is a logical outgrowth of the information available to the public for comment in the Proposed Plan and the RI/FS Report. A logical outgrowth occurs where the public could have reasonably anticipated the change, based on information available during the public comment period and the comments submitted. A significant change would be considered to be a logical outgrowth where, based on the comments received during the public comment period, the Agency selects, from among the alternatives discussed in the FS and/or Proposed Plan, an alternative (or parts of alternatives) that differs from the preferred alternative in the Proposed Plan. A significant change that is a logical outgrowth of information available to the public in the Proposed Plan and RI/FS Report should be documented at the end of the Decision Summary of the ROD in the Documentation of Significant Changes section. Additional public notice or comment on this type of change is not necessary. Examples of types of significant changes that are logical outgrowths are presented in **Highlight 2**.

In those limited situations in which a significant change is not a logical outgrowth of the Proposed Plan and its supporting information (i.e., the public could not reasonably have anticipated the

## HIGHLIGHT 2 TYPES OF SIGNIFICANT CHANGES THAT ARE LOGICAL OUTGROWTHS

- Changing a Component -- In response to a commenter, a change in the preferred alternative's cost, timing, level of performance, or applicable or relevant and appropriate requirements (ARARs) that could have been anticipated by other members of the public.
- Combining Components of Alternatives -- In response to comments, the final remedy combines one component of the preferred alternative (e.g., for ground-water remediation) and a component of a different alternative (e.g., soil remediation) presented in the RI/FS Report.
- Selecting a Different Alternative -- An alternative evaluated in the FS, other than the preferred alternative in the Proposed Plan, is determined to provide the most appropriate balance of tradeoffs among alternatives, with respect to the nine criteria, in light of public comments.

change that is made) a revised Proposed Plan that presents the new preferred alternative should be issued for public comment (NCP section 300.430(f)(3)(ii)(B)). The revised Proposed Plan must be prepared in accordance with the requirements of both CERCLA section 117 and the NCP. Appropriate supporting material that provides the necessary engineering, cost, and risk information for the new alternative(s), and discusses how the new alternative(s) compares to the other alternatives with respect to the nine evaluation criteria, should be provided in the revised Proposed Plan. (It may be appropriate to provide this information as a supplement to the RI/FS Report.) In addition, significant changes to the revised Proposed Plan must be documented at the end of the Decision Summary of the ROD in the Documentation of Significant Changes section. Examples of types of significant changes that require a new Proposed Plan, additional public comment, and documentation in the ROD are presented in **Highlight 3**.

**HIGHLIGHT 3**  
**TYPES OF SIGNIFICANT CHANGES THAT  
ARE NOT LOGICAL OUTGROWTHS**

- Selection of a new alternative that was not previously considered and discussed and is not a logical outgrowth (e.g., combination) of considered alternatives.
- Significant change to a component of the selected alternative resulting in fundamental changes to the remedy -- A previously unidentified ARAR now requires altering the remedy design, thus substantially altering the feasibility or performance of the alternative.

## II. POST-ROD CHANGES

After a ROD is signed, new information may be received or generated during the RD/RA that could affect how the Agency believes the remedy selected in the ROD should be implemented. Where information is submitted by a PRP, the public, or the support agency after a ROD is signed, the lead agency should consider this information when each of the following criteria are met (NCP section 300.825(c)):

- The comments contain significant information;
- The information is not contained elsewhere in the Administrative Record File;
- The information could not have been submitted during the public comment period; and
- The information substantially supports the need to alter significantly the response action.

The lead agency may also evaluate whether a change to the remedy is warranted on its initiative, even where the requirements of NCP section 300.825(c) are not met.

The lead agency's categorization of a change, which will ultimately affect the documentation procedure required, is a site-specific determination and should consider the following factors:

- Does the change significantly alter the scope of the remedy (e.g., the physical area of the response, remediation goals, type and volume of wastes)?
- Would the change alter the performance (e.g., treatment levels to be attained) and thus raise concerns about the protectiveness or long-term effectiveness of the remedy that could not have been anticipated based on information in the ROD?
- Are the changes in costs of such a nature that they could not have been anticipated based on the estimates in the ROD and the recognized uncertainties associated with the hazardous waste engineering process selected?

Based on this evaluation and depending on the extent or scope of modification being considered, the lead agency determines that the post-ROD change is (1) non-significant or minor; (2) significant; or (3) fundamental. Examples of these three types of post-ROD changes are presented in **Highlight 4** (see also NCP preamble, 55 FR 8772). Each category is associated with a different documentation procedure, as discussed below.

## DOCUMENTING POST-ROD CHANGES

If **non-significant** or minor changes are made, they should be recorded in the post-decision document file. If the lead agency chooses, non-significant changes can be documented for the public in an optional Remedial Design Fact Sheet. If **significant** changes are made to a component of the remedy in the ROD, these changes should be documented in an Explanation of Significant Differences (ESD), as required by Section 117(c) of CERCLA. If **fundamental** changes are made to the overall remedy, they should be documented in a ROD amendment.

## EXPLANATION OF SIGNIFICANT DIFFERENCES (ESDs)

When documenting **significant** changes made to a remedy, the lead agency must comply with the procedures specified in NCP section 300.435(c)(2)(i). An ESD should be prepared to provide the public with an explanation of the

#### HIGHLIGHT 4 EXAMPLES OF POST-ROD CHANGES

- 1) **Minor.** Testing during remedial design shows that the volume of soil requiring treatment is 75,000 cubic yards rather than the 60,000 estimated in the ROD. However, the cost of the remedy will only increase by 5 percent because of economies of scale that can be realized.
- 2) **Significant.** Residuals from a treatment operation were not expected to be hazardous and it was planned to dispose of them on site in a Subtitle D unit. However, testing after treatment determines that the residuals are hazardous wastes, and off-site disposal at a Subtitle C facility is required.
- 3) **Fundamental.** The in-situ soil washing remedy selected in the ROD proves to be infeasible to implement after testing during remedial design. A decision is made to excavate and thermally treat the waste instead.

nature of the changes made to the remedy, to summarize the information that led to making that change, and to affirm that the revised remedy complies with the statutory requirements of CERCLA section 121. Generally, a new nine criteria analysis is not required; however, the ESD should include a statement that the ROD meets ARARs identified at the time the original ROD was signed (NCP section 300.430(f)(1)(ii)(B)(1) and (2)).

It may also be appropriate to prepare an ESD document when the lead agency decides to exercise a contingency remedy that was not sufficiently described in the ROD (see Guide to Developing Superfund No Action, Interim Action, and Contingency Remedy RODs, Directive #9335.3-02FS-3, March 1991).

During the period when the ESD is being prepared and made available to the public, the lead agency may proceed with the pre-design, design, construction, or operation activities associated with the remedy. The remedy can continue to be implemented in this case because the ESD represents only a notice of change, and the Agency

is not reconsidering the overall remedy. The lead agency should consult with the support agency, as appropriate, prior to issuing an ESD (see NCP section 300.435(c)(2)). Although not specifically required by CERCLA section 121(f), it is also recommended for the lead agency to provide the support agency the opportunity to comment and to summarize the support agency's comments in the ESD. The agency also should publish a notice of availability and a brief description of the ESD in a local newspaper of general circulation (as required by CERCLA Section 117(c)), and make the ESD available to the public by placing it in the administrative record file and information repository. A formal public comment period is not required when issuing an ESD. The Office of Emergency and Remedial Response (OERR) recommends issuing the ESD in a fact sheet format as outlined in **Highlight 5**. The appropriate Regional Manager may sign an ESD. (NOTE: In some cases, an additional public comment period or public meeting may be held voluntarily on a planned ESD (see NCP section 300.825(b)). This may be useful where there is considerable public or PRP interest in the matter.)

#### ROD AMENDMENT

In a few cases, new information submitted by the public post-ROD or developed by the lead agency during the remedial design/remedial action leads to the reconsideration of the hazardous waste management approach selected in the ROD. Such reconsideration of the remedy constitutes a **fundamental change**. When fundamental changes are made to the remedy selected in a ROD, the lead agency should conduct the public participation and documentation procedures specified in NCP section 300.435(c)(2)(ii).

In general, the introductory sections of the ROD do not need to be readdressed in the amended ROD. The focus of the amendment should be on:

- Documenting the rationale for the amendment;
- Evaluating the original selected remedy and the new proposed remedy using the nine evaluation criteria; and

**HIGHLIGHT 5**  
**SAMPLE FORMAT FOR ESD**

**Introduction:** Begin with an introduction to the site and a statement of purpose for the ESD, including:

- Site name and location;
- Identification of lead and support agencies;
- Citation of CERCLA section 117(c) and NCP section 300.435(c)(2)(i);
- Summary of the circumstances that gave rise to the need for an ESD;
- Statement that the ESD will become part of the Administrative Record File (NCP 300.825(a)(2)); and
- Address of location where the File is available and hours of availability of the File.

**Summary of Site History, Contamination Problems, and Selected Remedy:** Summarize the following aspects of the site or operable unit:

- The contamination problems and site history, including the date on which the ROD was signed; and
- The selected remedy, as originally described in the ROD.

**Description of the Significant Differences and the Basis for those Differences:** Summarize the significant changes to the remedy and the basis for making those changes, including:

- Information that gave rise to significant differences from the selected remedy as it was originally specified, which could include the following: (1) the results of treatability studies; or (2) other information developed or provided during the remedial design process that supports the change. Reference any information in the Administrative Record File that supports the need for the change.
- Description of the significant differences between the remedy as presented in the ROD and the action now proposed. As appropriate, this description should summarize the differences in scope, performance, or cost between the original and modified remedies, as necessary. For example:

Original Remedy

Excavation and incineration of 7,500 cubic yards of contaminated soil.

Air stripping and ground-water restoration.

Modified Remedy

Excavation and incineration of 11,500 cubic yards of contaminated soil.

Carbon adsorption for ground-water restoration.

**Support Agency Comments:** Include a summary of support agency comments on the ESD.

**Affirmation of the Statutory Determinations:** Affirm that the modified remedy continues to satisfy the requirements of CERCLA section 121 by including a statement such as the following:

"Considering the new information that has been developed and the changes that have been made to the selected remedy, the [lead and support agencies] believe that the remedy remains protective of human health and the environment, complies with federal and state requirements that were identified [(1) in the ROD/(2) in this ESD] as applicable or relevant and appropriate to this remedial action (at the time [(1) the original ROD/(2) this ESD] was signed), and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable for this site."

**Public Participation Activities:** Document compliance with the appropriate public participation requirements:

- That notice has been issued that the contents of the Administrative Record File are available for public review and comment; and
- The date of planned public information meetings, if applicable. (EPA is not required to hold public meetings on ESDs but may choose to do so if warranted by public interest.)

- Providing assurances that the proposed remedy satisfies the statutory requirements.

The format for a ROD amendment is presented in **Highlight 6**.

If the ROD to be amended addresses the entire response action for the site or a series of operable units (e.g., soil, surface water, and ground water), only that portion of the remedy being changed (e.g., ground water) requires an amendment. Under SARA §121, for the portion of the ROD being amended, a new nine criteria analysis, including a new ARARs analysis, will be necessary. Portions of the analysis in the original ROD can be cross-referenced, where appropriate. Therefore, the amount of information included in a ROD amendment is a function of the type of change made to the remedy and the rationale for that change. RD/RA activities being conducted on other portions of the site or operable units not proposed for changes may continue during the amendment process.

When there are fundamental changes proposed to the ROD, the lead agency should conduct the public participation and documentation procedures conducted for the original ROD (e.g., Proposed Plan, public comment period, Responsiveness Summary). (See NCP section 300.435(c)(2)(ii)(A)-(H).) When a fundamental change is proposed as a result of negotiations with a PRP, the Proposed Plan for the ROD amendment should be released for public comment concurrently with the consent decree. (If a change is made after a consent decree has been entered, involvement of the court may be required. Site managers should check with their regional counsel on how this may be accomplished.) ROD amendments should be signed by the Regional Administrator.

## **HIGHLIGHT 6 SAMPLE FORMAT FOR ROD AMENDMENT**

### **Introduction**

- Site Name and Location;
- Identify lead and support agencies;
- Cite CERCLA §117 and NCP 300.435(c)(2)(ii);
- Date of ROD signature;
- Summarize circumstances that led to the need for a ROD amendment;
- State that ROD amendment will become part of the Administrative Record File (NCP section 300.825(a)(2)); and
- Provide address where File is available for public review and hours of availability.

### **Reasons for Issuing the ROD Amendment**

- Identify remedy selected in ROD; and
- Summarize rationale for changing remedy selected in the ROD.

### **Description of the New Alternatives**

- Describe the original selected remedy and the new proposed remedies in the same manner requested in a standard ROD, highlighting the:
  - Treatment components;
  - Containment or storage components;
  - Ground-water components;
  - General components; and
  - Major ARARs.

### **Evaluation of Alternatives**

- Profile the original selected remedy and the new proposed remedies against the nine criteria.

### **Statutory Determinations**

- Provide a statement that the modified remedy satisfies CERCLA §121.

**NOTE:** See guidance on preparing RODs for scope and detail of subjects to be addressed under each point.

**NOTICE:** The policies set out in this memorandum are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this memorandum, or to act at variance with the guidance, based on an analysis of specific site circumstances. The Agency also reserves the right to change this guidance any time without public notice.